

Aberystwyth University

Spatializing the Ecological Leviathan: Territorial Strategies and the Production of Regional Natures

Jones, Rhys Alwyn; Jones, Martin Russell; Whitehead, Mark

Published in:

Geografiska Annaler: Series B, Human Geography

DOI:

[10.1111/j.0435-3684.2006.00205.x](https://doi.org/10.1111/j.0435-3684.2006.00205.x)

Publication date:

2006

Citation for published version (APA):

Jones, R. A., Jones, M. R., & Whitehead, M. (2006). Spatializing the Ecological Leviathan: Territorial Strategies and the Production of Regional Natures. *Geografiska Annaler: Series B, Human Geography*, 88(1), 49-65.
<https://doi.org/10.1111/j.0435-3684.2006.00205.x>

General rights

Copyright and moral rights for the publications made accessible in the Aberystwyth Research Portal (the Institutional Repository) are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the Aberystwyth Research Portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the Aberystwyth Research Portal

Take down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

tel: +44 1970 62 2400

email: is@aber.ac.uk

SPATIALIZING THE ECOLOGICAL LEVIATHAN: TERRITORIAL STRATEGIES AND THE PRODUCTION OF REGIONAL NATURES

by

Mark Whitehead, Martin Jones and Rhys Jones

Whitehead, M., Jones, M. and Jones, R., 2006: Spatializing the Ecological Leviathan: Territorial Strategies and the Production of Regional Natures. *Geogr. Ann.*, 88 B (1): 49–65.

ABSTRACT. This paper explores a dual absence – the absence of the state within contemporary geographical analyses of nature; and the absence of nature within contemporary explorations of state power. We argue that the modern state continues to play a crucial role in framing social interactions with nature, while nature is still vital to states within their realization of different forms of material and ideological power. In order to reconnect analyses of the state and nature, this paper combines work on the production of nature and state strategy with Lefebvre's recently translated writings on state space and territory. By focusing on the production of territory (or state space), we explore the interaction of the state and nature in the context of the political management of social and ecological space. We unravel the spatial entanglements of the state and nature through an analysis of the British state's territorial strategies within the West Midlands region. By considering three key historical periods within the history of the West Midlands we reveal how the emergence of the regional space called the West Midlands is a product of the ongoing spatial dialectics of state and nature therein.

Key words: nature, state, space, Lefebvre, Smith, Jessop

By any standards, 1948 was a frenetic year in the regional politics of the West Midlands. It was frenetic because it saw the publication of not one but two strategies designed to guide regional development in the West Midlands and to arrest socio-economic and environmental decline in the area. The two strategies were *Conurbation: A Planning Survey of Birmingham and the Black Country*, which was produced by the West Midlands Group on Post-War Reconstruction and Planning, and the *West Midlands Plan*, devised by the state planners Patrick Abercrombie and Herbert Jackson. The motivation behind these two interventions within the development of the West Midlands was an emerging socio-ecological crisis. According to the West Midlands Group this socio-ecological crisis was a product of the spatial form which development in the West Midlands had historically taken:

The history of the conurbation is a story of in-

dustrial acceleration in which the needs of man *sic* took second place to the demands of manufacturing. ... The mine, slag heap and the quarry marred the surface of a pleasant countryside. ... Today the planner is confronted with a gigantic sprawl of factories, houses, cities, towns and villages. ... Uncontrolled growth has sent towns stretching along main roads until it is now difficult to see where one ends and the other begins.

West Midlands Group, 1948 p. 16¹

By 1948, the West Midlands conurbation was a sprawling industrial metropolis of approximately 2.2 million people which had expanded to fill much of the coal-rich West Midlands plateau (see Map 1). This concentration of people and heavy industry made the West Midlands one of the largest industrial conurbations in western Europe. Inspired by the ideologies and philosophies of influential twentieth century planners such as Ebenezer Howard, Lewis Mumford and Patrick Geddes, Abercrombie believed that the solution to socio-environmental problems in the Midlands lay in reconfiguring the spatial relations which had been forged between society and nature in the area. In order to facilitate the reconfiguration of socio-natural relations in the West Midlands, Abercrombie and Jackson completed an extensive regional survey of the area, within which they exposed the multiple ways in which political, economic and cultural life in the West Midlands were connected to and dependent on nature and the surrounding countryside for their existence, subsistence and survival. Significantly at this time it is interesting to note that the region was becoming an increasingly important spatial context through which the British state was collating a range of different governmental knowledges pertaining to economic development (Linehan, 2003) and landuse (Rycroft and Cosgrove, 1994, 1995). The product of Abercrombie and Jackson's territo-

rial archaeology was, however, a combination of social, economic and natural information about the West Midland region.

The purpose of Abercrombie and Jackson's West Midlands plans, was at least partially, to facilitate the spatial reordering of the region and in the longer term to create a more socially and economically efficient place. What interests us about this story, however, are the ways in which the ordering of social and economic space in the West Midlands was facilitated through the concurrent reordering of nature. Looking more closely at the history of the West Midlands region both before and after Abercrombie and Jackson's plan, it becomes apparent that the British state's territorial interventions within the Midlands have always been about reordering and rationalizing nature in more or less explicit ways. At one level this revelation should not come as a great surprise. A number of writers have recognized that in order to be *effective*, state power is always negotiated through the socio-ecological vagaries of space, and that related territorial strategies to control and order space always rely on the ordering and production of both social and natural spatial arenas (Hannah, 2004; Lefebvre, 2003; Matless, 1998; Watts, 2004). While some have explored the spatial interface between states and nature through the *linear spatiality* of the frontier (Raffles, 2003), or the preserved spaces of the nature enclosure (Neumann, 2004), in this paper we focus upon the emergent spaces of the region. In this context we argue that the British region represents a crucial meeting point between the state and nature. The association between state, nature and region operates at two levels. First, as an emergent *space of governmentality* the region has provided a spatial register upon which the British state has consistently gathered, calculated and compiled ecological intelligence about its natural assets (see Linehan, 2003; Rose, 1999). Second, as an increasingly *governable space*, the region has also provided an important arena within which the physical transformation of nature has been secured and regulated by the state through various forms of planning and legislation (Rose, 1999).

Despite our desire to explore the territorial imbrications of state and nature we have been struck by the relative lack of attention which is afforded to the state with contemporary work on nature (with some notable exceptions: see Robbins, forthcoming; Gandy, 2005). Where tentative attempts have already been made to reconnect theories of the state and nature (cf. Bridge and Jonas,

2002; Johnston, 1996; Ophuls, 1977), it is often argued that these endeavours are a fruitless and anachronistic exercise (Latour, 1993, ch. 2; Rose and Miller, 1992; Yearley, 1996; Young, 1994). We argue, however, that a careful analysis of the various historical and territorial relationships between states and nature can provide key insights into the nature of modern power and the requisite imbroglis of politics and ecology. Drawing upon Lefebvre's (2003) recently translated work on the production of state territory, Smith's (1984, 1996, 1999) Lefebvrian analysis of the production of nature, and Jessop's (1990) theory of state strategy, we attempt to develop an account of the strategic production of nature which is told in the context of the state's spatial construction and intervention in the natural world. This paper begins by exploring the theoretical reasons why states and natures have remained largely separate categories of enquiry within contemporary political and ecological theory, before introducing a framework through which we believe they can be effectively recombined. The following three sections then animate this theoretical approach by returning to our story of the West Midlands region and three key historical moments of state nature relations therein. These historical moments include the Victorian construction of a national resource region; the post-Second World War attempts to secure the social and economic viability of the region through regional environmental planning; and contemporary attempts to control socio-ecological practices in the region through automated environmental monitoring technologies.

Axiomatic separations: states, nature and theory

Before we start to explore the spatial entanglement of the British state within the regional natures of the West Midlands, it is important to consider why the state and nature have become isolated within many strands of theoretical enquiry and to propose ways in which, at least at a theoretical level, they can be reconnected. At one level it is possible to trace the separation of accounts of the state and nature to the earliest analyses and theories of the state. Consequently, it is interesting to notice that in order to even conceive of and write about early forms of political society, influential thinkers such as Hobbes (1996) and Rousseau (1993) had to understand the emergence of the state in opposition to a pre-statal condition, or *state of nature*. In these classical ac-

counts of the state, the political community of the state is depicted as replacing the rule of nature (see also Whatmore, 2002, ch. 7). The temporal separation of the state and nature was subsequently supported by nineteenth-century anarchist accounts of the state, which essentially created a spatial divide between the political and domestic spaces of the state and ecological places of nature (see Kropotkin, 1974). According to certain anarchist writers, then, the emergence of the modern nation state as the dominant paradigm of political society had created a spatial division between the spaces of human life and the spaces of nature, and superimposed artificial political boundaries on to ecological spaces.²

As if to compound these long-established epistemological and political divisions, contemporary discussions of the environmental dimensions of globalization are adding apparent weight to the argument that analyses of state–nature relations are at best anachronistic and at worst irrelevant. The argument runs that despite a prevailing post-war belief that states could act as effective collective agencies (or *ecological leviathan*)³ in and through which the complex management of nature could be effectively regulated, the rise of transboundary pollution and systemic forms of planetary environment threat have made state-based action within environmental policy appear insufficient and moribund (Beck, 1992; Held *et al.*, 1999). When states are understood on fairly narrow terms as centralizing bureaucratic systems which extend their sovereign powers over clearly designated political boundaries, it is argued that *fin-de-siècle* ecological threats are making such political infrastructures increasingly impotent (Held *et al.*, 1999; Ophuls, 1977). The idea of the state as a narrowly conceived territorial actor has consequently provided a key context within which the value of analyses of state–nature relations has been questioned.⁴

Rethinking the divide I:

Networks, governmentality and political ecology

In attempting to develop a dialogue between theories of the state and nature, it is important to recognize that there are already a number of analytical perspectives available to us. While not all of these theoretical perspectives have been developed in the context of, or applied directly to, a concern with state–nature relations, they do serve to illustrate the multifarious ways in which the relationships between the state and nature may be conceived. One of the most prominent groups of theorists address-

ing such themes are political ecologists (for a cross-section of work on political ecological see Peet and Watts, 2004). As a tradition with varied intellectual heritage, political ecology is concerned with the connections which exist between political praxis and ecological process (Bryant, 2001; Robbins, 2000). Peet and Watts (2004) describe how since its inception in the early 1970s, political ecology has been primarily concerned with issues of resource use, access and degradation (p. 6). The purported originality of political ecology stems from its combined concern for the science of ecological process and the power relations which inform the use of environmental resources (*ibid.*, p. 7). Political ecologists have consequently explored the ways in which seemingly natural events such as famines, droughts and ecological catastrophes are actually the complex products of environmental change and political economic forces (cf. Blaikie, 1985; O'Brien, 1985). The desire of political ecologists to reveal the mixing of politics and nature would appear a useful starting point for our own concerns with state–nature relations. However, despite political ecologists' explicit concern with the political economy of nature, the state remains an underdeveloped category of analysis within the political ecology tradition (see Robbins, forthcoming).

In the endeavours of early political ecologists to understand the complex relationship between landowner-farmers and the structural economic and political forces which shape their existence, Peet and Watts notice a desire to reveal the role of the state in shaping how natural resources are perceived and used (2004, ch. 1). At one level this desire should not be surprising – the state, through its legislative procedures and planning regulations, clearly plays a crucial role in regulating access to and use of environmental resources. Despite this, however, Peet and Watts argue that within the influential work of Blaikie and Brookfield for example, the state is reduced to one of a plurality of exogenous forces (including the market and climate) which shape local political ecologies (see also Robbins, forthcoming) on this point). This tendency, which we recognize in other work on political ecology, results in the state being reduced to a relatively untheorized and undifferentiated factor within socio-environmental relations. More recent work within political ecology has, however, started to take a more explicit and focused interest in the state. In an excellent review of recent treatments of the state within political ecology, Paul Robbins (forthcoming) uncovers a bewildering and often contradictory array of

understandings of the state. While acknowledging a tendency among certain political ecologists to overlook the valuable perspectives on the state provided by political geography, Robbins outlines a typology of contemporary states which appear within the writings of political ecologists. According to Robbins, then, the state has appeared within contemporary political ecology as a simplifying agent responsible for reducing the complexity associated with local understandings of nature; as a networked node responsible for negotiating between international financial flows and local ecological need; and as a knowledge hub responsible for gathering ecological knowledge and constructing hegemonic epistemologies of nature and development (ibid., p. 2). While failing to detect a clear 'theory of the state' within political ecology, Robbins does reveal a far more nuanced 'sense of the state' emerging within political ecology. This is a state which acts within complex networks of relations and in a range of different locations, while providing a crucial context for the construction and contestation of ecological knowledge alliances (ibid., p. 16).

Over the past fifteen years, a body of post-Marxist analysis concerning the political constitution of nature has emerged which while inspired by many of the same intellectual currents as political ecology has questioned many of the tradition's underlying assumptions. Inspired by the collective writings of Haraway (1991), Latour (1993, 2004) and Callon (1986), these post-Marxists approaches are characterized by a concern with the heterogeneous constitution of reality (see also Law, 1992; Whatmore, 2002). By heterogeneous constitution, we are referring to a way of apprehending the world which does not presuppose the existence of pure binary forms – such as the state and nature – but instead focuses on the imbrications of social and ecological entities, technological procedures and cultural practices as always already impure fragments of the modern world. From this theoretical and ontological perspective, many writing within this tradition have argued that while political ecologists try to outline complex mixtures of politics and nature within their accounts of the world, they tend to mix pre-differentiated categories such as governments and ecological processes in order to understand particular moments of political and ecological crisis while ignoring the historical co-evolution of such entities. In this context, advocates of these post-Marxist approaches would argue that while many

political ecologists endeavour to mix accounts of the state and nature, they mix two already formed and separate entities.

Through the imagery of networks, quasi-objects and cyborgs, writers such as Latour and Haraway have sought to illustrate the indissoluble links by which the things we call society and nature are connected. In this context, such an approach suggests that to analyse the links between politics and ecology it is necessary to understand the complex networks and technological edifices through which the social and natural worlds are constituted. One consequence of this is a realization that government is not simply something which is practised by people on people, but a process which is perpetually mediated through a series of non-human objects and technologies (Barry, 2001, p. 175). A second consequence of this perspective would be to question the value of categories such as states and nature as perhaps extreme simplifications of the complexities of social and ecological existence. These are questions which more recent work on political ecology is beginning to address through the more network-based understandings of state power and ecological intervention described above (see Robbins, 2000, forthcoming).

A final area of analysis which has recently developed, and which appears to offer a fruitful context within which to explore the links between government systems and nature, is that of green or environmental governmentality (Braun, 2000; Darier, 1994, 1999; Goldman, 2004; Luke, 1996, 1999; Watts, 2004). Inspired by Foucault's archaeology of government types, or mentalities of government, related analysis has explored the multiple sites and micro-political contexts within which knowledge of the natural world is produced and power over nature is realized. Related analyses have considered the role of environmental sciences (Luke, 1996), green plans (Darier, 1996), forestry management (Scott, 1998), survey and mapping projects and programmes (Braun, 2000), and environmental monitoring technologies (Barry, 2001) in regulating the *conduct of environmental conduct*. The critical contribution of work within environmental governmentality to considerations of the state–nature relationship is the attention it draws to various strategies, techniques and technologies which are routinely deployed by state authorities to *governmentalize* nature. In this context, notions of environmental governmentality draw our attention away from simplified conceptualizations of state–nature relations which reduce them to expressions

of the state's sovereign power, to understand how the state creates (or *reverse engineers*) a nature which is governable in the first place. While often deployed in a variety of non-statal contexts (see Goldman, 2004; Luke, 1999), certain exponents of environmental governmentality have explicitly considered governmental relations between states and nature (see Darier, 1996; Scott, 1998). In his study of Canadian environmental policies, for example, Darier outlines the different ways in which the state's government of nature is achieved through a set of centralized institutional procedures, knowledge-gathering exercises and codes of socio-ecological conduct. In keeping with Scott's classic analysis of state interventions within nature, Darier recognizes that in creating a governable nature, states often produce an abstract and highly rationalized vision of the natural world which does little justice to the complexities of local ecology (for a counter-argument though, see Robbins, 2000). Drawing in part upon Foucault's own suspicion of the state as a model of political power, however, many of these analyses assert that the state is only one among a range of different sites through which government can be administered.

Rethinking the divide II: Territorial framing, strategy and production

Our aim within this paper is to develop a form of analysis which recognizes the subtleties, micro-political constitution and multiplicity of state–nature relations, but does not abandon them altogether as categories of analysis. Our approach to state–nature relations is thus perhaps best thought of as lying somewhere in between work on political ecology, hybrids and governmentality. It is in this context that we wish to combine two conceptual frameworks which, while prominent in the fields of ecological philosophy and state theory respectively, have remained relatively separate areas of theoretical enquiry. These two conceptual frameworks are the *production of nature thesis* and theories of *state strategy*. The production of nature thesis was pioneered by the geographer Neil Smith (1984) in the early 1980s, but has more recently been overlooked in geographical work on socio–natural relations due to its association with the binary logics of Marxist dialectics and capitalist causality (Casteel, 2002; see also Smith, 1999). The idea of state strategy, or the state as a site for the proliferation of multiple political strategies, has been advocated within the extensive neo-Marxist writings of Bob

Jessop (1982, 1990). Although neither Smith or Jessop write explicitly on the relationship between states and nature, our contention within this paper is that Lefebvre's recently translated writings on the production of state space offer a dynamic context within which theories of the production of nature and state strategy can be fruitfully combined within different spatial contexts.

Smith's analysis of the production of nature is essentially an account of the ways in which capitalist ideologies of nature combine with particular practices to transform the natural world (Smith, 1984). To this extent produced nature is a form of capitalist/industrialist second nature, which has been irrevocably transformed from its original condition. Smith's idea of produced nature was influenced and inspired by Henri Lefebvre's (1991 translation) earlier theory of the production of space. Essentially, Smith deploys Lefebvre's writings on the production of space to excavate the different ideological strategies and material practices through which nature is constantly produced and reproduced (Smith, 1999). Despite Lefebvre's own attentiveness to the role of the state within the production of space (and by extension nature) (cf. Lefebvre, 2003), Smith fails to develop a clear account of the role of the state within his own production of nature thesis. This is significant, because it is often the state which intervenes – through legal restrictions, territorial designations and moral pronouncements – when exploitative ideologies of nature meet social and ecological forms of resistance. Within his recently translated work on state power, Lefebvre (2003)⁵ asserts that the state management of socio–ecological relations has historically been mediated and enabled through the production and consolidation of political space. Lefebvre calls this form of political space *state space* – but we understand it as referring to the broad set of territorial strategies associated with modern states. Lefebvre argues that in the first instance the state inherits a physical space or national territory – we understand this physical space as a facet of first nature (or nature which remains unaltered on a large scale) (see Eyre, 1978). Gradually, Lefebvre describes the emergence of social space within a state's territory, as modern capitalist expansion transforms physical space into segments of property and industrially transformed social ecologies – we understand this social space to be a form of second, or produced nature. Crucially, Lefebvre argues that emerging fragments of social space are wrought with contradictions. These contradictions may be expressed in the

form of socio-industrial congestion, pollution and ecological catastrophe, but ultimately stem from the capitalist fragmentation and disintegration of space into private property. According to Lefebvre, the role of the state is to construct territorial strategies (which take both ideological and material forms) which endeavour to resolve the contradictions of social space and ensure the free flow of social, economic and ecological processes and relations. In this sense, territorial relations represent a critical meeting ground between the state and nature.

While the implications of Lefebvre's analysis of the production of state-space for work on nature remains latent in his own work, it is our intention to reveal these implications through our extended case study of state-nature relations in the West Midlands. In this sense, just as Smith took Lefebvre's (1991) work on the production of space and applied it to nature, we want to use Lefebvre's (2003) work on the production of state-space and apply it to state-nature. Our focus on the West Midlands region in this sense is designed to draw attention to the different ways in which state-nature relations are etched into space (see Neumann, 2004). At one level, then, the case study illustrates how state-nature relations have been vital to the emergence of the region as an economic space marked by both a distinctive industrial infrastructure and an ecological landscape. At another level, analysis shows how the region has been used as a governmental strategy through which to collate environmental data and devise new political strategies.⁶

In adopting Lefebvre's work on the productive dynamics of space, we are conscious that Lefebvre's interpretation of the state remains a fairly rigid Marxist one. It is clear in this context that Lefebvre's understanding of the state is vulnerable to the same criticisms which have seen the state marginalized within contemporary analyses of nature. It is because of this that we turn to Jessop's (1982, 1990) more subtle neo-Marxist reading of the state. In this paper, we argue that the state plays a crucial role in developing political and ecological strategies which ensure that prevailing capitalist ideologies of nature as an exploitable and abundant resource are made compatible with the role of nature as both a context for social reproduction and a broader arena for cultural existence. The idea of strategy is significant here because it serves to emphasize the non-essentialist character of state intervention and the crucial role which the state constantly plays in attempting to resolve the contradic-

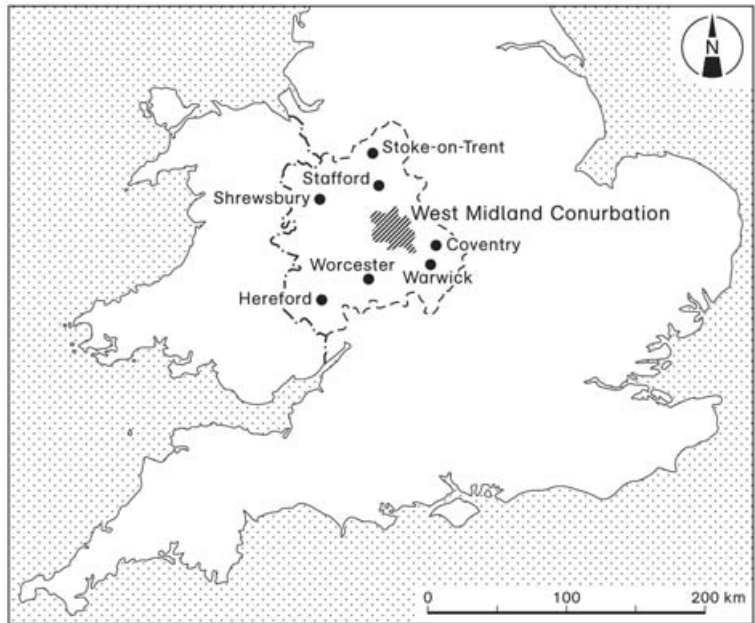
tions which are generated by competing interests within capitalist society. According to Jessop (1982, 1990), state power is not an absolute quality which resides exclusively within the institutional matrices of government (a position traditionally associated with Weberian readings of the state), but is instead the precarious outcome of the marshalling of different interests which flow through the state as part of a particular state project or strategy (Jessop, 1990). In this context, state strategies represent particular historical attempts to manage socio-political conflicts through the ideological and institutional construction of a *common purpose*.

Recognizing the strategic nature of state power is a vital moment in beginning to understand the role of the state within the historical production of nature. In this sense, it is not that states have historically been involved in a series of arbitrary interventions within nature, but that the imbrications of the state within nature have always involved a strategic process which has sought to negotiate the official representation of the natural world favoured by the state, with the ideological meanings invested in nature by its users/inhabitants. Crucially, this framework recognizes both the material and ideological interfaces which connect the state and nature, and emphasizes that the role of the state within the production of nature is heavily prescribed by the material qualities of the natural world and the social appropriation of nature within various political movements. By combining the work of Smith, Lefebvre and Jessop, we hope to develop an account of the strategic production of state-nature which recognizes the evolving relationship between the consolidation of state-spaces/territories and the management of nature. The remainder of this paper is devoted to exploring one particular spatial history of state-nature relations – the case of the British West Midlands.

The territorial politics of first, second and third natures in the West Midlands region

The Victorian region – limitless ecologies and the enframing of first nature

In late eighteenth- and early nineteenth-century Britain, developments within industrial technologies and practices were leading to a revisualization of the physical territory of the nation state. In essence the demand for new types of resource (in particular coal and iron ore) generated a new spatial register within which territorial assets were defined by the state not simply in terms of the organic pro-



Map 1. The West Midlands conurbation and region.
Source: After the West Midlands Group 1948, by Ian Gulley.

ductive capacity of landscapes and soils, but also in terms of the concentration of certain geological reserves (Eyre, 1978). It is within the context of this changing definition of national wealth and the highly uneven spatial concentration of key industrial assets (which were now interpreted as the basis for this wealth) that regions such as the West Midlands first started to emerge within the spatial imagination of the British state (Fawcett, 1960, p. 111) (see Map 1). The concentrations of coal, iron ore and limestone in various areas throughout what is now known as the West Midlands gave the region a particular strategic significance for the British state (Dury, 1978, ch. 22; Wood, 1976) – these were the ecological advantages which nature had first bestowed upon the region. The West Midlands region contained four of the most abundant coalfields in Britain: North and South Staffordshire; East Shropshire; and East Warwickshire (Bloomer, 1974, p. 14). What was particularly significant about this natural endowment was not just that the West Midlands possessed an abundance of coal, but that the particular geological shape, or stratigraphy of coal seams in the region, made it so easy to exploit. Wood observes that it was ‘coal, in the famous “Thick Coal” or Ten Yard Seam [which] provided the richest and most easily accessible source of fuel in Britain, occurring at the surface in virtually level strata’ (Wood, 1976, p. 25).

The peculiar stratification of the West Midlands’ Carboniferous geology resulted in a very specific set of ideological and material state interventions in the region. We claim that these interventions resulted in a form of selective spatial targeting (cf. Jones, 1997), whereby the liberal utilitarian state visited the West Midlands with a disproportionate vengeance. Despite the advantages of the West Midlands as a physical space for industrial development, its basic economic and social infrastructure put the region at a relative disadvantage with regard to other nascent industrial regions of the time. It was in this context that the early interventions of the state in the region were devoted to providing the political, ideological and economic context for the co-ordinated exploitation of the area’s natural assets. Essentially, then, through the support of private enterprise and the commissioning of large-scale public works, the British state sought to construct a regional infrastructure, or integrated territorial space, in the West Midlands, dedicated to the efficient and effective exploitation of the region’s assets.

At one level the strategic exploitation of the West Midlands was based upon a series of socio-ecological narratives, or modes of spatial representation which served to make regional nature in the West Midlands legible as a ‘national’ resource, while providing a moral framework through which the expanded exploitation of nature in the region was just-

tified. One prominent socio-ecological form of representation popularized in nineteenth-century West Midlands was the notion of the abundance of its regional nature. A belief in the abundance, 'thickness', or *limitless* form of regional nature (cf. Latour, 1993, p. 9) was the basis and partial justification for the rapid industrial exploitation of the region's resources during the nineteenth century (Bloomer, 1974, pp. 7–10; Keen, 1988, p. 108). In this context, the representational entanglement of the nineteenth-century British state within the regional nature(s) of the West Midlands essentially produced a vertical territoriality (Braun, 2000) in the region which was amenable to the industrial desires of Victorian Britain.

Above and beyond these representational entanglements of state–nature, however, the mixing of national state and regional nature in the West Midlands during the nineteenth century was also expressed and realized through the economic policies and practices of the British state at the time. These policies were essentially designed to facilitate a spatially integrated system through which the ecologies of the West Midlands could be used. One of the most important policies in this context was the Joint Stock Companies Act of 1856 and the associated principle of limited liability that became popular during the nineteenth century. The Act of 1856 meant that any seven or more agents or agencies could join together to form a corporate body with limited liability. The significance of the Joint Stock Companies Act, and the wider principle of limited liability to this paper, relates to the fact that these economic principles were specifically designed to enable 'risky' industrial programmes or investment ventures for small partnerships to be operationalized. This form of incentive was particularly pertinent in the context of railroad construction (Bloomer, 1974, p. 21) and mining, and as such, had a great bearing on the ability of industrialists to use and transform nature (Smellie, 1937, p. 24). In the case of the West Midlands, such legislation resulted in the proliferation of private railroad construction⁷ and mining in the region, both of which were important components of an emerging system of spatially co-ordinated nature exploitation (cf. Dury, 1978).

The concentration of limited liability agreements in regions such as the West Midlands meant that the liberalized exploitation of nature focused on certain key subnational districts. Significantly, in the context of previous discussions about the relationship between states and nature, it is interesting to ob-

serve the ways in which the economic strategies which were expressed within the principles of the Act not only reflected tensions within British liberalism, but also revealed the difficulties of exploiting and transforming nature. The industrial exploitation of nature during the nineteenth century, particularly through mining, often required vast quantities of capital investment in the form of infrastructure and labour. This investment was, however, always made against the relative vagaries of the natural resources and the social risks inherent in the working conditions of the mining industry (cf. Bridge and McManus, 2000, p. 29–37). The unpredictability of geological nature in terms of relative abundance, quality and structural stability made limited liability a crucial precursor to sustained economic investment even in regions like the West Midlands. In this sense, it is clear that the legislative interventions of the British state provided a strategic framework within which diffuse private interests in the West Midlands could be brought together in order to facilitate the kind of orchestrated utilization of nature upon which the national economy depended. What resulted was a structured coherence which was based upon representational visions, technological infrastructure and economic practice. Crucially, this strategy was predicated upon the creation of territorial space which was predominantly based upon economic considerations and calculations – in the nineteenth century the West Midlands was an economic region.

Regional chaos and spatial catastrophe: planning and ordering second nature

On certain terms, the state-orchestrated development of the West Midlands during the nineteenth and early twentieth centuries was a success. It created one of the largest urban-industrial agglomerations in Europe centred upon the Birmingham and Black Country conurbation (see Map 1). By the middle of the twentieth century the West Midlands was quite literally the *industrial heart of the nation* (Liggins, 1977, p. 75). Evidence of the West Midlands region's spatio-industrial primacy within the UK may be discerned in the economic statistics of the time. In 1951, for example, the West Midlands was producing 14% of the national net output of manufactured goods (ibid., p. 81); by 1968 the region was responsible for 9.8% of the UK's gross domestic product; and some estimate that at times leading up to and immediately following the Second World War the region contributed up to 40%

of national export income (Liggins, 1977 pp. 75–85). There was, however, a cost to the liberalized development of the West Midlands region which had begun in the eighteenth and nineteenth centuries.

As we have already discussed, the costs of economic development in the West Midlands were largely related to the problems created by increasing levels of socio-economic congestion and the erosion of socio-ecological amenity in the region. To understand this situation in territorial terms, it is important to realize that the West Midlands region was becoming a dysfunctional space even before the onset of the Second World War. Evidence of the dysfunctional nature of the West Midlands as a spatial context for modern capitalist development is scattered throughout the various reports which were produced by Abercrombie and Jackson and the West Midlands Group in the immediate post-war era. The West Midlands Group, (1948, p. 251) for example, observed that:

[t]he conurbation presents one of the most difficult planning tasks in the country. In physical congestion and dereliction, in ugly slums and marred land, lies a danger to the future social life of the whole area; a danger which will persist and increase until an attempt is made to plan on a comprehensive scale

Essentially, the spatial form of development which had emerged in the West Midlands over a period of some 150 years of intense industrial development now represented a threat to the economic and social future of the whole region. According to the West Midlands Group (1948), the cause of the West Midlands' socio-economic malaise was the unregulated, liberalized development of the region (p. 251). The pattern of largely unregulated urban development in the West Midlands had created a fragmented and fractured space, within which the energies and interests of private landowners and industrialists (which had been fostered and encouraged by the British state) had been given priority over the collective ordering of the spatial economy of the region.

The spatial chaos of the West Midlands in the immediate pre- and post-war era reflects what Lefebvre rather dramatically calls a 'space of catastrophe' – or the conditions under which the established functioning of space starts to unravel (Lefebvre, 2003 p. 89). According to Lefebvre, the production of spaces of chaos and potential catas-

trophe represents one of the contradictions of state intervention within space. This contradiction is based upon the fact that while the state devotes its time to the construction of politically manageable and by definition homogeneous spaces, in supporting the needs of private capital it consistently assists in the formation of a national territory of fragmented space. The West Midlands Group described the fragmentation of the West Midlands' spatial economy in terms of the creation of isolated parcels of land, partly used pockets of space and unused and derelict plots. This disorganized and seemingly wasteful use of space created a physical barrier to future development in the area. Questions were raised at the time, for example, concerning where new housing development would be established; how new industrial premises could be built; and how better modes of communication and transportation were going to be implemented. The irregular and sporadic use of land in the West Midlands had generated a kind of spatial inertia, within which it was difficult to imagine how new modes of regional social and economic organization could be developed in order to enable the West Midlands to continue to play a leading role in Britain's post-war economic recovery.

What is most interesting with regard to the spatial catastrophes of the post-war West Midlands is that while Lefebvre largely interpreted notions of catastrophe in relation to economic space and related social infrastructures, in the Midlands the spatial crisis of the economy was also articulated in relationship to nature. One of the key concerns of the West Midlands Group was with the affects that unchecked urban expansion in the West Midlands had had upon the regional environment, and in particular the natural world. According to the Group, the wasteful use of land within the urban agglomeration had created two recalcitrant problems. First, the lack of available space within the urban agglomeration was driving the increasing spatial expansion of the conurbation into the surrounding countryside. Second, the failure of systematic planning within the conurbation meant that there was no proper provision of urban parkland or open space. These twin processes had created a situation in the West Midlands where public access to environmental amenities and nature was severely limited, and where such access did exist, it was already under threat from further erosion.

As we have already mentioned, the British state's response to the situation came in the form of Abercrombie and Jackson's regional master plan

(Abercrombie and Jackson, 1948). Significantly in the context of this section, it is interesting to note that Abercrombie and Jackson, echoing the language of Lefebvre, interpreted their plan as a response to the 'spacial *sic* problem' or 'geographical malady' of the West Midlands (*ibid.*, par. 8). Following their extensive survey of the social ecologies of the West Midlands, Abercrombie and Jackson developed a master plan which rejected the suggestion that the planning problems of the West Midlands could be solved simply by hemming in the growth of the metropolis and co-ordinating the more efficient use of land therein (a strategy which was recommended by the West Midlands Group). Part of this conclusion was undoubtedly influenced by the fact that Abercrombie and Jackson were aware of the important role which the British state envisaged for the West Midlands within the recovery of the national economy following the Second World War. In a sense the British government wanted a bigger and more powerful West Midlands, not a spatially constrained urban agglomeration.

Despite the pressures created by national economic considerations, however, it is clear from reading the first interim (and confidential draft) of the West Midlands Plan, that Abercrombie and Jackson were aware of the strong rural preservationist lobby in the West Midlands and wider British society (*ibid.*, par. 15) (Matless, 1998, p. 204–205). Consequently, while regional economic growth was something which the plan would be designed to facilitate, it was clear that such developments should not be encouraged at the expense of the surrounding countryside:

The Birmingham and Black Country Conurbation should not continue to extend into the countryside other than by what might be called the 'consolidation' or filling in of suitable gaps. General peripheral spread would perpetuate the present rapid rate of obsolescence of buildings and other urban installations ... and isolate many city dwellers even further from the open country.

Abercrombie and Jackson, 1948, par. 15

This evident concern for the countryside is symptomatic of a broader process which Macnaghten and Urry (1998) recognize in Britain in the immediate post-war era. This process involved the gradual merging of British understandings of nature with popular imaginations of the British (and more specifically English) countryside (*ibid.*, p. 176). The

merging of nature and countryside at this time appears to have been a product of the growing threat which the spatial expansion of urban industrial conurbations posed to rural areas, and the subsequent depiction of the countryside as the new frontier upon which popular resistance to the corrupting effects of industrial society could be waged. In this context, we argue that state intervention within the West Midlands' nature in the immediate post-war period was not so much an intervention into the geologies of first nature, as it had been in the nineteenth century, but was instead based upon the active construction and management of a second or social nature. This was a second nature of pastoral landscapes and agricultural production – the very productive hinterland which had fed and sustained the industrial transformation of the region (a fact which was recognized in Abercrombie and Jackson's original regional survey). This second nature was simultaneously constructed at the time as scenic essence (particularly in relation to bucolic landscapes); a way of life (in terms of ruralism); and national identity (in relation to the link between the countryside and Englishness) (cf. Matless, 1998). The spatial issue was of course that although this 'natural' landscape had been vital to the economic success of the region, this economic success was now threatening the existence of the rural landscape upon which it initially depended.

Caught between the pressures for national urban economic growth and national rural preservationism, Abercrombie and Jackson proposed a territorial solution to the spatial planning problems of the West Midlands which sought to strategically negotiate the competing demands which were placed on regional space there. The West Midlands Plan asserted that regional growth should be redirected towards a series of peripheral towns (e.g. Redditch and Tamworth) located at a distance of at least twenty miles from the existing outer limit of the urban conurbation. It was hoped that these regional towns could absorb 130 000 to 140 000 people from the expanding metropolis, without encroaching significantly upon the rural hinterland of the agglomeration (Abercrombie and Jackson, 1948, par.15). In relation to regional nature it was proposed that a green belt be established which would separate the city from the newly expanded peripheral towns and within which there would be a moratorium on new developments. Crucially, in order to implement such a planning system, Abercrombie and Jackson had to develop a much larger territorial representation of the West Midlands' region than that pro-

posed by the West Midlands Group. For Abercrombie and Jackson, then, the West Midlands became a space of political co-ordination and control across seventy-two planning authorities, and incorporated the counties of Staffordshire, Warwickshire and Worcestershire (see Whitehead, 2003).

Looking at the language of Abercrombie and Jackson's West Midlands Plan now, it clearly reflects what Lefebvre describes as a spatial strategy for managing the contradictions of capitalist economic space. The Plan speaks of 'spatial maladies', 'finding room', 'filling gaps' and the 'efficient use of space'. As a spatial project, however, it is also clear that the West Midlands Plan involved representing the regional space of the West Midlands as a rational territory within which the necessary number of local planning authorities could be controlled and marshalled in order to facilitate a more balanced utilization and economic and environmental space in the West Midlands (for more on the use of regions and regional surveys within governmental strategies in the UK see Linehan, 2003). While, at one level, it is clear that the official state representation of the West Midlands region within Abercrombie and Jackson's Plan did oppose other spaces of representation within and of the region (particularly that promoted by the West Midland Group),⁸ it is also evident that the Plan embodied a strategic territorial production of a regional nature which allowed for continued economic growth in the region, while attempting to preserve a particular vision of pastoral ecology. In this sense the West Midlands Plan supported a broader set of nationally designated spatial practices which emerged in the post-war period in Britain. Supported by the Town and Country Planning and New Towns Acts of 1947, and the National Parks and Access to the Countryside Act of 1949, these plans sought to establish clear guidelines concerning what should happen in urban and rural space (Macnaghten and Urry, 1998). The urban centre (whether large or small) was to be a place of industry and social reproduction, and the spatial relocation of people, housing and businesses to new urban centres would secure this. The rural, however, was to be the realm of a very different set of spatial practices ranging from agricultural production to walking, playing, holidaying and conserving nature – activities which it was intended would be carried out partly by urban residents travelling to a now more accessible countryside in order to enable them to realize their place in the ecological world. Controlling the social practices which occur in space is a fundamental objec-

tive of any form of territorial politics. In the case of the post-war West Midlands, we can clearly see how state intervention within space also involved the material and ideological construction of a new form of rural nature (or countryside) which is both a product of and context for these new social practices.

Third nature and new territorial simulations of the West Midlands region

Following the spatial entanglements of the British state in the socio-environmental relations of the West Midlands in the post-war era, it is noticeable that more recent government interventions within the ecologies of the region have taken a very different form. While, at a cursory level, these more recent state inventions appear to have become *aterritorial*, we argue that they still represent an attempt to control socio-natural relations in the region through the political construction and control of space. From the 1960s it is clear in the case of the West Midlands that the British state became less concerned with the physical management of nature as a spatial thing (whether that be economic resources, or the countryside), and more interested in the diffuse political management of the more mobile social encroachments on nature which are caused by the production of pollution. While the reasons for this changing mode of state intervention are far from clear, it is undoubtedly related to two key processes: (1) the shift of regional policies within much of Europe and North America towards the creation of cleaner, smarter, post-industrial spaces (Harvey, 1996; Scott, 1988; Storper, 1997); and (2) a growing awareness of the contribution of regional economies to global forms of environmental change. In the West Midlands this shift began in the 1960s with a concern for environmental monitoring and pollution control and has more recently become manifest within a series of sustainable regional development programmes (Government Office for the West Midlands, 2000). Today, as a consequence of these programmes, the West Midlands is one of the most vigorously monitored environmental spaces in the whole of Europe. We argue that this proliferation of environmental monitoring within the West Midlands characterizes a new set of territorial strategies which involve the control of the regional environment through the constant (re)production of cybernetic simulations of (third) nature.

In order to begin to understand these new gov-

environmental interventions within the natures of the West Midlands, we want to return briefly to the work of Lefebvre on the state. While Lefebvre (2003) reflects in great detail on the material interventions of states within economic space, he also draws attention to the emerging capacities of states to regulate space through the accumulation of knowledge- and information-gathering apparatuses. While both forms of intervention represent attempts to regulate the spatial fractures generated by capitalism, it is clear that the ability to gather increasingly sophisticated forms of spatial knowledge has transformed the nature of state intervention in the West Midlands region. Significantly, in the context of this paper, when discussing the use of knowledge in the management of space, Lefebvre (2003, p. 93) draws particular attention to the importance of ecological forms of knowledge:

First, it [the Capitalist Mode of Production] *integrates* older spaces (nature, the countryside, historical cities) while destroying them; then it invests knowledge (*savior*) more and more deeply in the management of space (the soil, the subterranean and its resources, air space). The Capitalist Mode of Production produces its own space; in so doing, it is transformed and this is the advent of the State Mode of Production.

We claim that the proliferation of environmental monitoring systems in the West Midlands region reflects a system of knowledge investment typical of the spatial management strategies of the late modern state identified by Lefebvre. As we see, these strategies are focused far less on the physical management of territory, and more on the production of virtual representations of space as the basis for governmental surveillance and discipline. The regulation of nature is achieved in this context not by setting aside a space for nature, but by managing nature through the production of spatialized ecological knowledge. While conceptualized in a different way, Lefebvre's discussion of state-based investment in knowledge reflects the links those working on environmental governmentality have exposed between state power and the accumulation of ecological knowledge. In this context, it is clear that governmental power in the West Midlands has been achieved not only through the direct control of what goes on in the region, but also on the basis of knowing the territory, its trends and patterns and responding to these aggregate tendencies.

Despite the recent proliferation of environmental monitoring in the region, environmental surveillance in the West Midlands actually goes back to the nineteenth century. It was at this time that different local bodies and corporations carried out *ad hoc* samples of environmental conditions in the region in response to the Public Health and Alkali Acts which were passed in Britain in 1848 and 1863. It was not, however until the early twentieth century that we saw the beginnings of a systematic, state-based survey of environmental conditions in the region under the auspices of the Meteorological Office. Even then it was still as late as the 1960s and 1970s when the first fully integrated survey of air pollution began in the West Midlands. Co-ordinated by the British government's Warren Spring Laboratory, this first attempt to systematically monitor environmental pollution in the West Midlands was carried out in the period from 1961 to 1971. This survey was made possible by the use of state-designated sampling sites and laboratories (officially called National Survey Classified Sites) located throughout the urban and rural districts of the West Midlands region which all used sampling technologies and modes of analysis that were regulated by the Warren Spring Laboratory. In the case of the West Midlands there were 130 pollution-monitoring sites used in the survey. What is particularly interesting about this air pollution survey, however, is that while dedicated to monitoring highly mobile and essentially *aspatial* fragments of social nature (namely environmental pollution), when this national survey was compiled it presented its findings in a distinctly territorial (and regional) form.

In 1972, the Warren Spring Laboratory published the results of the first national survey of air pollution in Britain – *The National Survey of Air Pollution, 1961–1971* (Warren Spring Laboratory, 1972). Following the introduction to this report, air pollution data are presented in a series of volumes which correspond to the different regional spaces in the UK, with pollution levels in the West Midlands being described in Volume 3. The regionalization of environmental data in this survey does at one level seem peculiar, given that the type of pollution it describes (mainly smoke, sulphur dioxide, dust and grit) tends to pay no attention to such politically conceived boundaries as it circulates freely in the atmosphere. But this territorialization of pollution (or changes in nature) was important because it created a mode of representation in and through which the state could understand and act on natural relations across the country. In this sense we argue that

the presentation of pollution by the National Survey of Air Pollution within a territorial grid created a spatial capacity to act and intervene within socio-ecological relations on behalf of the state. This spatial capacity to act was generated by the fact that the National Survey of Air Pollution enabled the British state to understand the West Midlands' (for example) contribution to national air pollution (contributions which were less than northern industrial regions, but higher than regions in the south), and to unpack subregional levels of air pollution within the West Midlands itself (with north Staffordshire being the biggest polluter). This type of spatialized knowledge was important because it enabled the British state to target key regional and subregional spaces as areas within which to tackle air pollution and to introduce various disciplinary tactics (including the enforcement of clean air legislation and various eco-levies) for reducing pollution levels therein. This political tactic was also important in informing the subsequent use of a standardized vision of the West Midlands region. The space which the National Survey of Air Pollution consequently took to be the West Midlands region (a spatial area much larger than that deployed by Abercrombie and Jackson) was a standardized space (recognized by the state's own statistical registrar general) whose resident population was such that it made comparison with other regions possible. It is clear that the National Survey of Air Pollution enabled the British state to produce a whole new series of representations of ecological space in the West Midlands and to affect socio-ecological practices in new ways in the region. While this form of intervention within nature was obviously different from the programme of regional planning in the post-war era, it was no less territorial. In this context, it is clear that what Abercrombie and Jackson's West Midlands Plan and the National Survey of Air Pollution have in common is their endeavour to create a set of spatial boundaries (admittedly around different constructions of the West Midlands region) in order to control social practices and other socio-ecological interactions therein.

Since the completion of the first National Survey of Air Pollution in regions like the West Midlands in 1972 a new system of environmental monitoring has been gradually developed in the UK. From 1972 onwards, the British state started to implement a system of integrated automatic environmental monitoring stations throughout the country. This monitoring system is now referred to as the Automatic Urban and Rural Network (AURN) and

has nine sites within the West Midlands region. Crucially, these automated monitoring stations have facilitated a new set of spatial representations of atmospheric nature in the West Midlands. The automated atmospheric monitoring stations now operating in the West Midlands are essentially sealed laboratories which monitor the air on a continual basis and feed back digital data on pollution directly to the state's National Air Quality Information Archive. The digitization of environmental data facilitated by these automated monitoring stations has enabled the generation of regional representations of nature which can be instantly relayed across the country through various electronic media networks, and be replicated within a range of different political contexts and publications. Essentially, the digitisation/miniaturization of nature in this way has mobilized ecological knowledge concerning the West Midlands. This instantaneous mobilization of nature as digital knowledge obviously has important implications regarding the ability of the British state to respond to ecological change in the West Midlands region. We argue that this emerging representation of nature is akin to what Tim Luke (1995) has termed *third nature* – or a nature which has been digitally dislodged from its direct ecological context and exists only within the electrical impulses of computerized circuits and telecommunications cables.

Recognizing the role of the British state within the production of third nature in the West Midlands is important not simply because it provides a neat historical contrast with the state's previous interventions within the first and second natures of the region, but because of the way it reveals newly emerging territorial strategies through which political power and nature are mixing in the Midlands. The digitization of environmental data, when combined within the state's new spatial modelling techniques, is enabling the production of ever more sophisticated pollution emissions maps to be produced. These maps not only reveal the levels of air pollution within the standard regional and subregional boundaries of West Midlands, but also enable emissions trajectories to be created for individual local authorities, cities and even motorways. While still framed within the standard spatial geometries of the West Midland region, the topologies of pollution represented within these emissions maps is enabling the British state to exercise a finer scale of spatial intervention within the ecological relations of the West Midlands. Consequently, the ability to monitor

daily changes within pollution levels, and to isolate the particular political districts from where such pollution has been produced, has enabled the British state to implement a more stringent system of pollution levies, violation notices and fines against local authorities and city governments. This has produced a type of spatial knowledge regime which not only enables the state to respond to the long-term socio-economic and ecological trends identified in older regional surveys, but also to take more immediate action.

The real-time control of socio-ecological practices which has been facilitated by these new emissions maps reflects an interesting expression of cybernetic territoriality. Tim Luke (1995) developed the idea of cybernetic (or *telemetric*) territoriality in relation to his work on the production and perpetual reproduction of third natures. According to Luke, cybernetic territories are new spaces of sovereignty, within which the defence of political rights and access is waged not around the markers of real space, but in and through the global networks of telecommunications. In this context, Luke observes pertinently that while real territories are built from atoms, cybernetic territories are constituted by *bits* (1995, p. 7). Our understanding of cybernetic territoriality does, however, differ from that presented by Luke. It differs to the extent that while we recognize the digitized abstraction of (third) nature, we are also mindful that this computerized mapping of nature has been reapplied to the political/territorial geographies of the West Midland region. That is to say, the digitized emulations of nature constructed in the West Midlands have been grafted straight back on to a very political understanding of the region as a territorial space. In this context, the production of digitized representations of regional nature has not been about the construction of a new cybernetic domain (which may be accessed by internet servers and the state's computer networks), but has instead seen the use of cybernetic technologies to facilitate new forms of territorial interventions by the British state within regional (second) nature. Returning to the work of Lefebvre, then, environmental monitoring in the West Midlands has been about generating a cybernetic representation of regional space and nature in order to instigate a wave of governmental controls over spatial praxis. It is a new territorial strategy within the ongoing spatial dialectic between the state and nature.

Conclusion

In this paper, we have called for greater attention to be given to the historical relationship between states and nature. Despite the emerging tendency to globalize nature, and consequently ignore the state, it has been our intention to illustrate that state systems, and the associated political strategies of states, continue to play an important role in managing and shaping nature. By focusing upon just one of the many ways in which states and nature become routinely embroiled – the case of the production of state-space or territory – we have revealed how in the creation of state-space, states are always implicated in the production of state-natures. Just as Smith (1984) applied Lefebvre's production of space thesis to the production of nature, in this paper we have explored the ways in which Lefebvre's recently translated analyses of the production of state-space may be applied to the production of state nature. In doing so we have attempted to develop an account of state-nature, which does not simply see nature as the instrumental output of state intervention, but as the contested outcome of a series of struggles to represent and transform nature as both an ideological category and a material resource. Drawing on this perspective, we have emphasized that while conventional analyses of territory have focused upon the role of the state in ordering social and economic activities in space, they have neglected the simultaneous ordering of nature which accompanies these processes (with notable exceptions: see Neumann, 2004). We have also illustrated that territorial strategies concerning the management of nature not only involve the physical bounding of ecological space, but may also be used as the basis for the more subtle exercise of governmental power expressed in the virtual mapping of ecological knowledge and the disciplinary tactics which flow from this process.

On the basis of our analysis, it seems difficult to imagine an account of nature in the West Midlands making sense without some appreciation of the role of state intervention within the region, but we also claim that our case study reveals just one of the ways in which state-nature relations may be discerned and interrogated. Related research on the institutionalization of nature within the state system through various eco-bureaucracies and environmental departments; the legal and moral role of state authorities in managing contemporary scientific interventions within microbiological nature; and recent struggles waged by national govern-

ments over their sovereign rights to develop supposedly 'national' resources in the face of international environmental treaties and agreements, could all contribute to the analysis of state–nature we have begun to develop in this paper. Crucially, we argue that analyses of state–nature will reveal the often- unseen ecological consequences of state policy, while simultaneously exposing the political practices and imaginaries which continue to structure our ability to think about and act upon nature.

Mark Whitehead

*Institute of Geography and Earth Sciences,
University of Wales, Aberystwyth
SY23 3DB
UK
E-mail: msw@aber.ac.uk*

Martin Jones

*Institute of Geography and Earth Sciences,
University of Wales, Aberystwyth
SY23 3DB
UK
E-mail: msj@aber.ac.uk*

Rhys Jones

*Institute of Geography and Earth Sciences,
University of Wales, Aberystwyth
SY23 3DB
UK
E-mail: raj@ber.ac.uk,*

Notes

1. This quote is taken from the West Midlands Group's *Conurbation* report which was compiled by local dignitaries, planners and property owners who shared a concern over the social and environmental decline of their home region.
2. We note here that the extent to which anarchist writers and philosophers have developed explicitly anti-statist positions varies greatly across what is a very broad political movement. We recognize here, for example, that within his extensive writings on anarchism and social ecology, Murray Bookchin (1992) espoused a version of *libertarian municipalism* which differed greatly from the political visions of many eco-anarchists. Bookchin's visions of a new ecological community, which was still premised on political, not environmental, boundaries, was widely criticized within the anarchist community.
3. For more on the role of states as ecological Leviathans see Ophuls (1977) and Gandy, M. (2005).
4. As we argue in the following section, however, if we go beyond understanding the territorial dynamics of the state as simply being an issue of defending pre-ordained, national political boundaries to understand the internal dynamics of territorial praxis within the state, territory can actually provide a way of reasserting the importance of the state within ecological theory rather than undermining it (for an excellent contemporary example of such an approach see Brenner (2004)).
5. We draw here on the translation of Lefebvre's 'L'espace et l'état' by Alexandra Kowalski-Hodges, Neil Brenner, Aaron Passell, and Bob Jessop. Lefebvre actually wrote extensively on the state. 'L'espace et l'état,' is ch. 5 of vol. IV (*Les contradictions de l'état moderne. La Dialectique et/de l'état*) of Lefebvre's *De l'Etat* which was written between 1976 and 1978.
6. While the link between space and environmental knowledge is discussed within Lefebvre's analysis of state–space, this is a perspective on space which has also become prominent in both political ecology and environmental governmentality (Watts, 2004).
7. In addition to supporting private railroad companies, the British state also sanctioned significant expenditure to be devoted to the construction of public railway lines in the West Midlands during the nineteenth century. This was perhaps an early example of the spatial favouritism of the British state regarding infrastructural investment.
8. There is evidence that certain members of the West Midlands Group were highly critical of Abercrombie and Jackson, both for their conceptualisation of the West Midlands region as a rational planning space, and the lack of provision for new open spaces within the Conurbation within their Plan.

References

- ABERCROMBIE, P. and JACKSON, H. (1948): *The West Midlands Plan* (Interim, confidential edn), Ministry of Town and Country Planning, London.
- BARRY, A. (2001): *Political Machines: Governing Technological Society*, Athlone, London.
- BECK, U. (1992): *Risk Society: Towards a New Modernity*, Sage, London.
- BLAIKIE, P. (1985): *The Political Economy of Soil Erosion in Developing Countries*, Longman, Harlow.
- BLAIKIE, P. and BROOKFIELD, H. (1987): *Land Degradation and Society*, (Methuen, London).
- BLOOMER, R.G. (1974): *The West Midlands*, Ginn & Company, London.
- BOOKCHIN, M. (1992): Libertarian municipalism, *Society and Nature*, 1: 94–95.
- BRENNER, N. (2004): *New State Spaces: Urban Governance and the Rescaling of Statehood*, Oxford University Press, Oxford.
- BRAUN, B. (2000): Producing vertical territory: geology and governmentality in late Victorian Canada, *Ecumene*, 7: 7–46.
- BRIDGE, G. and JONAS, A.E.G. (2002): Governing nature: the reregulation of resource access, production, and consumption, *Environment and Planning A*, 34: 759–766.
- BRIDGE, G. and McMANUS, P. (2000): Sticks and stones: environmental narratives and discursive regulation in the forestry and mining sectors, *Antipode*, 32: 10–47.
- BRYANT, R. (2001): Political ecology: a critical agenda for change, in CASTREE, N. and BRAUN, B. (eds): *Social Nature: Theory, Practice and Politics*, Blackwell, Oxford ch. 8.
- CALLON, M. (1986): Some elements in a sociology of translation', in LAW, J. (ed.): *Power, Action, Belief*, Routledge, London, pp. 19–34.
- CASTREE, N. (2002): False antitheses? Marxism, nature and actor-networks, *Antipode*, 34: 111–146.
- DARIER, É. (1996): Environmental governmentality: the case of Canada's green plan, *Environmental Politics*, 4: 585–606.

- DARIER, É. (ed.) (1999): *Discourses of the Environment*. Blackwell, Oxford.
- DURY, G.H. (1978): *The British Isles* (5th edn), Heinemann, London, ch. 22.
- EYRE, S.R. (1978): *The Real Wealth of Nations*, Edward Arnold, London.
- FAWCETT, C.B. (1960): *Provinces of England: A Study of some Geographical Aspects of Devolution*, Hutchinson, London.
- GANDY, M. (2005): Rethinking the ecological Leviathan: environmental regulation in an age of risk, *Global Environmental Change*, 9: 59–69.
- GOLDMAN, M. (2004): Eco-governmentality and other transnational practices of the 'green' World Bank, in PEET, R. and WATTS, M. (eds): *Liberation Ecologies: Environment, Development, Social Movements*, Routledge, London, ch. 6, pp. 166–192.
- GOVERNMENT OFFICE FOR THE WEST MIDLANDS (2000): *Quality of Life, the Future Starts Here: A Sustainable Development Strategy for the West Midlands*, Red Fox Media Birmingham.
- HANNAH, M. (2004) Governmentality and the topology of terror. *Paper Presented to the University of Wales, Aberystwyth Human Geography Seminar Series*, September.
- HARAWAY, D. (1991): *Simians, Cyborgs and Women: The Reinvention of Nature*. Routledge, London.
- HARVEY, D. (1996): *Justice, Nature and the Geography of Difference*, Blackwell, Oxford.
- HELD, D., MCGREW, A., GOLDBLATT, D. and PERRATON, J. (1999): *Global Transformation – Politics, Economics and Culture*, Polity Press, Cambridge.
- HOBBES, T. (1996): *Leviathan*. Oxford University Press, Oxford.
- HOLLIDAY, J. (2000): Fifty years of development planning, in CHAPMAN, D., HARRIDGE, C., HARRISON, G. and HARRISON J. (eds): *Region and Renaissance: Reflections on Planning and Development in the West Midlands 1950–2000*, Brewin Books, Warwickshire, pp. 5–14.
- JESSOP, B. (1982): *The Capitalist State: Marxist Theories and Methods*, Martin Robertson, Oxford.
- JESSOP, B. (1990): *State Theory: Putting Capitalist States in their Place*, Polity Press, Cambridge.
- JOHNSTON, R.J. (1996): *Nature, State and Economy: A Political Economy of the Environment*. (2nd edn), Wiley, Chichester.
- JONES, M. (1997): Spatial selectivity of the state? The regulationist enigma and local struggles over economic governance, *Environment and Planning A*, 29: 831–864.
- KEEN, D.H. (ed.) (1988): *West Midlands Field Guide*, Quaternary Research Association, Cambridge.
- KROPOTKIN, P. (1974): *Fields, Factories and Workshops*, Allen & Unwin, London.
- LATOUR, B. (1993): *We Have Never Been Modern*, Harvester Wheatsheaf, London.
- LATOUR, B. (2004): *Politics of Nature: How to Bring the Sciences into Democracy*, Harvard University Press, Cambridge, MA.
- LAW, J. (1992): Notes on the theory of actor-network: ordering, strategy and heterogeneity, *Systems Practice*, 5: 379–393.
- LEFEBVRE, H. (1991): *The Production of Space*, Blackwell, Oxford.
- LEFEBVRE, H. (2003): Space and the state, in BRENNER, N., JESSOP, B., JONES, M. and MACLEOD, G. (eds): *State/Space: A Reader*, Blackwell, Oxford, pp. 84–100.
- LIGGINS, D. (1977): Changing role of the west midlands region in the national economy, in JOYCE, F. (ed.): *Metropolitan Development and Change – The West Midlands: A Policy Review*, Teakfield Limited, Hants, pp. 75–96.
- LINEHAN, D. (2003): Regional survey and the economic geographies of Britain 1930–1939, *Transactions of the Institute of British Geographers*, 28 (New Series): 96–122.
- LUKE, T.W. (1995): Simulated sovereignty, telematic territoriality: the political economy of cyberspace, paper presented at the Second Theory, Culture and Society Conference, 'Culture and Identity: City, Nation, World', 10–14 August.
- LUKE, T.W. (1996): *Generating Green Governmentality: A Cultural Critique of Environmental Studies as a Power/Knowledge Formation*, Mimeo.
- LUKE, T.W. (1999): Environmentality as green governmentality, in DARIER, E. (ed.): *Discourses of the Environment*, Blackwell, Oxford, pp. 121–151.
- MACNAUGHTEN, P. and URRY, J. (1998): *Contested Natures*, Sage, London.
- MATLESS, D. (1998): *Landscape and Englishness*, Reaktion Books, London.
- NEUMANN, R. (2004) Nature-state-territory: toward a critical theorization of conservation enclosures, in PEET, R. and WATTS, M. (eds): *Liberation Ecologies: Environment, Development, Social Movements*, Routledge, London, ch. 7, pp. 195–217.
- O'BRIEN, J. (1985): Sowing the seeds of famine: the political economy of food deficits in Sudan, *Review of African Political Economy*, 33: 23–32.
- OPHULS, W. (1977): *Ecology and the Politics of Scarcity*, Freeman, San Francisco, CA.
- PEET, R. and WATTS, M. (eds) (2004): *Liberation Ecologies: Environment, Development, Social Movements*, Routledge, London ch. 1, pp. 3–47.
- RAFFLES, H. (2003): *In Amazonia: A Natural History*, Princeton University Press, Oxford.
- ROBBINS, P. (forthcoming): The state in political ecology: a postcard to political ecology from the field, in COX, K., LOW, M. and ROBINSON, J. (eds): *The Handbook for Political Geography*, London, Sage.
- ROBBINS, P. (2004): *Political Ecology: A Critical Introduction*. Blackwell, New York.
- ROBBINS, P. (2000): The practical politics of knowing: state environmental knowledge and local political economy, *Economic Geography*, 76: 126–144.
- ROSE, N. (1999): *Powers of Freedom*, Cambridge University Press, Cambridge.
- ROSE, N. and MILLER, P. (1992): Political power beyond the state: problematics of government, *British Journal of Sociology*, 43: 173–205.
- ROUSSEAU J. (1993): *The Social Contract and the Discourses*, Everyman Classics, London.
- RYCROFT, S. and COSGROVE, D. (1994): The stamp of an idealist, *Geographical Magazine*, 66(10): 36–39.
- RYCROFT, S. and COSGROVE, D. (1995): Mapping the modern nation: dudley stamp and the land utilisation survey of Britain, *History Workshop Journal*, 40: 91–105.
- SCOTT, A. (1988): *New Industrial Spaces: Flexible Production Organization and Regional Development in North America and Western Europe*, Pion, London.
- SCOTT, J.C. (1998): *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed*, Yale University Press, New Haven, CT.
- SMELLIE, K.B. (1937): *A Hundred Years of English Government*, Duckworth, London.
- SMITH, N. (1984): *Uneven Development: Nature, Capital and the Production of Place*, Blackwell, Oxford.
- SMITH, N. (1996): The production of nature, in Robertson, G., MASH, M., TICHNER, L., BIRD, J., CURTIS, B. and PUTNAM, T. (eds): *Future Natural*, Routledge, London.

- SMITH, N. (1999): Nature at the millennium: production and re-enchantment, in BRAUN, B. and CASTREE, N. (eds): *Re-making Reality: Nature at the Millennium*, Routledge, London.
- WARREN SPRING LABORATORY (1972): *National Survey of Air Pollution, 1961–1971*, London, HMSO.
- STORPER, M. (1997): *Regional World: Territorial Development in a Global Economy*, Guilford Press, London.
- WEST MIDLAND GROUP (1948): *Conurbation: A Survey of Birmingham and the Black Country*, The Architectural Press, London.
- WHATMORE, S. (2002): *Hybrid Geographies: Nature Cultures Space*, Sage, London.
- WHITEHEAD, M. (2003): From moral space to the morality of scale. The case of the sustainable region, *Ethics, Place and Environment*, 6 (3): 235–257.
- WOOD, P.A. (1976): *The West Midlands*, David and Charles, Devon.
- Yearley, S. (1996): *Sociology, Environmentalism, Globalization*, Sage, London.
- YOUNG, O.R. (1994): *International Governance: Protecting the Environment in a Stateless Society*, Cornell University Press, London.
- WATTS, M. (2004): Violent environments: petroleum conflict and the political ecology of rule in the Niger Delta, Nigeria, in PEET, R. and WATTS, M. (eds): *Liberation Ecologies: Environment, Development and Social Movement* (2nd edn) pp. 273–298.